

Claims

- [c1] 1. An apparatus for beam deflection, in particular for scanning microscopy, comprises:
a first mirror arrangement for deflecting a light beam; and
a rotary drive (1) for alternately rotating the first mirror arrangement, wherein the rotary drive (1) has two mutually independent drive units (2, 3) for rotating the first mirror arrangement (4), together or mutually independently, about a rotation axis (5) defined by said rotary drive (1).
- [c2] 2. The apparatus as defined in Claim 1, characterized in that the rotation axes of the two drive units (2, 3) are substantially parallel.
- [c3] 3. The apparatus as defined in Claim 2, characterized in that the rotation axes of the two drive units (2, 3) are substantially identical.
- [c4] 4. The apparatus as defined in Claim 1, characterized in that the first drive unit (2) defines a shaft (6) and the second drive unit (3) is mounted on the shaft (6) of the first drive unit (2) so that the second drive unit (3) is rotated by the first drive unit (2).
- [c5] 5. The apparatus as defined in Claim 1, characterized in that the second drive unit (3) defines a shaft (7) and the mirror arrangement (4) is mounted on the shaft (7) of the second drive unit (3).
- [c6] 6. The apparatus as defined in Claim 1, characterized in that fast beam deflection is accomplished with the second drive unit (3).
- [c7] 7. The apparatus as defined in Claim 6, characterized in that the shaft (6) of the first drive unit (2) is blocked from rotating during operation of the second drive unit (3).
- [c8] 8. The apparatus as defined in Claim 6, characterized in that the shaft (7) of the second drive unit (3) is blocked from rotating during operation of the first drive unit (2).
- [c9] 9. The apparatus as defined in Claim 1, characterized in that a second mirror

arrangement (8) is provided for deflection of the light beam in a further deflection direction, the second mirror arrangement (8) is positioned either before or after the first mirror arrangement (4) and a second rotary drive (9) is provided to rotate the second mirror arrangement (8).

[c10] 10.The apparatus as defined in Claim 9, characterized in that the deflection direction of the first mirror arrangement (4) is substantially perpendicular to the deflection direction of the second mirror arrangement (8).

[c11] 11.The apparatus as defined in Claim 9, characterized in that the first and the second mirror arrangement (4, 8) respectively executes a slow and fast beam deflection.

[c12] 12.The apparatus as defined in Claim 11, characterized in that a fast beam deflection lies in the range from 100 Hz to 10,000 Hz.

[c13] 13.The apparatus as defined in Claim 11, characterized in that a slow beam deflection lies in the range from 0.1 Hz to 800 Hz.

[c14] 14.The apparatus as defined in Claim 9, characterized in that a shared mount is provided and at least one of the mirror arrangements has at least two mirrors, which are received in the shared mount.

[c15] 15.The apparatus as defined in Claim 9, characterized in that one or both mirror arrangements (4, 8) have exactly one mirror.

[c16] 16.An scanning microscope comprises:
an apparatus for beam deflection, wherein the apparatus for beam deflection has a first mirror arrangement for deflecting a light beam; and
a rotary drive (1) for alternately rotating the first mirror arrangement,
wherein the rotary drive (1) has two mutually independent drive units (2, 3) for rotating the first mirror arrangement (4), together or mutually independently, about a rotation axis (5) defined by said rotary drive (1).

[c17] 17.The scanning microscope as defined in Claim 16, characterized in that the rotation axes of the two drive units (2, 3) are substantially parallel.

[c18]	18.The scanning microscope as defined in Claim 17, characterized in that the rotation axes of the two drive units (2, 3) are substantially identical.
[c19]	19.The scanning microscope as defined in Claim 16, characterized in that the first drive unit (2) defines a shaft (6) and the second drive unit (3) is mounted on the shaft (6) of the first drive unit (2) so that the second drive unit (3) is rotated by the first drive unit (2).
[c20]	20.The scanning microscope as defined in Claim 16, characterized in that the second drive unit (3) defines a shaft (7) and the mirror arrangement (4) is mounted on the shaft (7) of the second drive unit (3).
[c21]	21.The scanning microscope as defined in Claim 16, characterized in that fast beam deflection is accomplished with the second drive unit (3).
[c22]	22.The scanning microscope as defined in Claim 21, characterized in that the shaft (6) of the first drive unit (2) is blocked from rotating during operation of the second drive unit (3).
[c23]	23.The scanning microscope as defined in Claim 21, characterized in that the shaft (7) of the second drive unit (3) is blocked from rotating during operation of the first drive unit (2).
[c24]	24.The scanning microscope as defined in Claim 16, characterized in that a second mirror arrangement (8) is provided for deflection of the light beam in a further deflection direction, the second mirror arrangement (8) is positioned either before or after the first mirror arrangement (4) and a second rotary drive (9) is provided to rotate the second mirror arrangement (8).
[c25]	25.The scanning microscope as defined in Claim 24, characterized in that the deflection direction of the first mirror arrangement (4) is substantially perpendicular to the deflection direction of the second mirror arrangement (8).
[c26]	26.The scanning microscope as defined in Claim 24, characterized in that

the first and the second mirror arrangement (4, 8) respectively executes a slow and fast beam deflection.

[c27] 27.The scanning microscope as defined in Claim 26, characterized in that a fast beam deflection lies in the range from 100 Hz to 10,000 Hz.

[c28] 28.The scanning microscope as defined in Claim 26, characterized in that a slow beam deflection lies in the range from 0.1 Hz to 800 Hz.

[c29] 29.The scanning microscope as defined in Claim 24, characterized in that a shared mount is provided and .at least one of the mirror arrangements has at least two mirrors, which are received in the shared mount.

[c30] 30.The scanning microscope as defined in Claim 24, characterized in that one or both mirror arrangements (4, 8) have exactly one mirror.

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